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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/583,557	06/19/2006	Kenichi Motoyama	292358US0PCT	9829
22850 7590 02/01/2008 OBLON, SPIVAK, MCCLELLAND MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314			EXAMINER LOEWE, ROBERT S	
			ART UNIT 1796	PAPER NUMBER
			NOTIFICATION DATE 02/01/2008	DELIVERY MODE ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No.	Applicant(s)	
	10/583,557	MOTOYAMA ET AL.	
	Examiner	Art Unit	
	Robert Loewe	1796	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 June 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/ are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>8/19/06; 8/15/06</u> | 6) <input type="checkbox"/> Other: _____ |

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DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1-3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nogami et al. (US Pat. 5,800,926), in view of Crompton OSi Specialties (Silquest A-1524 Silane product description found at [http://www.biryong.co.kr/datacenter/chemistry/Silquest\(R\)A1524Silane.pdf](http://www.biryong.co.kr/datacenter/chemistry/Silquest(R)A1524Silane.pdf), published 2002).

Nogami et al. teaches a process for preparing a film-forming composition comprising forming a reaction mixture of comprising a tetraalkoxysilane (2:40), a perfluorinated

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alkoxysilane (2:44), a solvent (2:49), oxalic acid (2:51), and one or more trialkoxysilane modifiers (4:52-5:7), which serve to promote adhesion and reduce the curing temperature of the composition. As a specific example, Nogami et al. teaches a film-forming composition comprising (1) tetraethoxysilane [formula (1) of instant claim 1], (2) tridecafluorooctyltrimethyloxysilane [formula (2) of instant claim 1], (3) aminopropyltrimethoxysilane, (4) glycidoxypropyltrimethoxysilane (instant claim 2), oxalic acid and ethanol (example 3; 7:22-36). Nogami et al. further teaches the addition of a sol of the types found in instant claim 3. Nogami et al. further explicitly teaches all of the process limitation steps of instant claim 1 (2:35-64).

Nogami et al. does not explicitly teach the addition of an ureidoalkyltrialkoxysilane [formula (3) of instant claim 1]. However, Crompton OSi Specialties teaches ureidopropyltrimethoxysilane. Nogami et al. and Crompton OSi Specialties are combinable because they are from the same field of endeavor, namely, alkoxysilane adhesion promoters. At the time of the invention, a person having ordinary skill in the art would have found it obvious to employ ureidopropyltrimethoxysilane as taught by Crompton OSi Specialties into the film-forming composition as taught by Nogami et al. and would have been motivated to do so since Crompton OSi Specialties teaches that ureidopropyltrimethoxysilane offers a number of important benefits including longer pot life than aminosilanes in reactive polymer systems (page 1). This would lead one having ordinary skill in the art to replace the aminopropyltrimethoxysilane as taught in Example 3 of Nogami et al. with ureidopropyltrimethoxysilane.

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Claims 4-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nogami et al. (US Pat. 5,800,926), in view of Crompton OSi Specialties (Silquest A-1524 Silane product description found at [http://www.biryong.co.kr/datacenter/chemistry/Silquest\(R\)A1524Silane.pdf](http://www.biryong.co.kr/datacenter/chemistry/Silquest(R)A1524Silane.pdf), published 2002).

Nogami et al. teaches a process for forming a coating film which comprises forming a reaction mixture of a tetraalkoxysilane (2:40), a perfluorinated alkoxysilane (2:44), a solvent (2:49), oxalic acid (2:51), and one or more trialkoxysilane modifiers (4:52-5:7), which serve to promote adhesion and reduce the curing temperature of the composition. As a specific example, Nogami et al. teaches a film-forming composition comprising (1) tetraethoxysilane [formula (1) of instant claim 4], (2) tridecafluorooctyltrimethoxysilane [formula (2) of instant claim 4], (3) aminopropyltrimethoxysilane, (4) glycidoxypropyltrimethoxysilane (instant claim 5), oxalic acid and ethanol (example 3; 7:22-36). Nogami et al. further teaches the addition of a sol of the types found in instant claim 6. Nogami et al. further explicitly teaches all of the process limitation steps and physical property limitations of instant claim 4 (2:35-3:4).

Nogami et al. does not explicitly teach the addition of an ureidoalkyltrialkoxysilane [formula (3) of instant claim 4]. However, Crompton OSi Specialties teaches ureidopropyltrimethoxysilane. Nogami et al. and Crompton OSi Specialties are combinable because they are from the same field of endeavor, namely, alkoxysilane adhesion promoters. At the time of the invention, a person having ordinary skill in the art would have found it obvious to employ ureidopropyltrimethoxysilane as taught by Crompton OSi Specialties into the film-forming composition as taught by Nogami et al. and would have been motivated to do so since Crompton OSi Specialties teaches that ureidopropyltrimethoxysilane offers a number of

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important benefits including longer pot life than aminosilanes in reactive polymer systems (page 1). This would lead one having ordinary skill in the art to replace the aminopropyltrimethoxysilane as taught in Example 3 of Nogami et al. with ureidopropyltrimethoxysilane.

Claims 7-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nogami et al. (US Pat. 5,800,926), in view of Crompton OSi Specialties (Silquest A-1524 Silane product description found at [http://www.biryong.co.kr/datacenter/chemistry/Silquest\(R\)A1524Silane.pdf](http://www.biryong.co.kr/datacenter/chemistry/Silquest(R)A1524Silane.pdf), published 2002).

Nogami et al. teaches a coating film having the physical properties of instant claim 7 which is formed from a reaction mixture comprising a tetraalkoxysilane (2:40), a perfluorinated alkoxysilane (2:44), a solvent (2:49), oxalic acid (2:51), and one or more trialkoxysilane modifiers (4:52-5:7), which serve to promote adhesion and reduce the curing temperature of the composition. As a specific example, Nogami et al. teaches a film-forming composition comprising (1) tetraethoxysilane [formula (1) of instant claim 7], (2) tridecafluorooctyltrimethyloxysilane [formula (2) of instant claim 7], (3) aminopropyltrimethoxysilane, (4) glycidoxypropyltrimethoxysilane (instant claim 8), oxalic acid and ethanol (example 3; 7:22-36). Nogami et al. further teaches the addition of a sol of the types found in instant claim 9. Nogami et al. further explicitly teaches all of the process limitation steps and physical property limitations of instant claim 7 (2:35-3:4).

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Nogami et al. does not explicitly teach the addition of an ureidoalkyltrialkoxysilane [formula (3) of instant claim 7]. However, Crompton OSi Specialties teaches ureidopropyltrimethoxysilane. Nogami et al. and Crompton OSi Specialties are combinable because they are from the same field of endeavor, namely, alkoxysilane adhesion promoters. At the time of the invention, a person having ordinary skill in the art would have found it obvious to employ ureidopropyltrimethoxysilane as taught by Crompton OSi Specialties into the film-forming composition as taught by Nogami et al. and would have been motivated to do so since Crompton OSi Specialties teaches that ureidopropyltrimethoxysilane offers a number of important benefits including longer pot life than aminosilanes in reactive polymer systems (page 1). This would lead one having ordinary skill in the art to replace the aminopropyltrimethoxysilane as taught in Example 3 of Nogami et al. with ureidopropyltrimethoxysilane.

Claims 10-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nogami et al. (US Pat. 5,800,926), in view of Crompton OSi Specialties (Silquest A-1524 Silane product description found at [http://www.biryong.co.kr/datacenter/chemistry/Silquest\(R\)A1524Silane.pdf](http://www.biryong.co.kr/datacenter/chemistry/Silquest(R)A1524Silane.pdf), published 2002).

Nogami et al. teaches a process for forming a coating film which comprises forming a reaction mixture comprising a tetraalkoxysilane (2:40), a perfluorinated alkoxysilane (2:44), a solvent (2:49), oxalic acid (2:51), and one or more trialkoxysilane modifiers (4:52-5:7), which serve to promote adhesion and reduce the curing temperature of the composition. As a specific

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example, Nogami et al. teaches a film-forming composition comprising (1) tetraethoxysilane [formula (1) of instant claim 10], (2) tridecafluorooctyltrimethoxysilane [formula (2) of instant claim 10], (3) aminopropyltrimethoxysilane, (4) glycidoxypyltrimethoxysilane (instant claim 11), oxalic acid and ethanol (example 3; 7:22-36). Nogami et al. further teaches the addition of a sol of the types found in instant claim 12. Nogami et al. further explicitly teaches all of the process limitation steps and physical property limitations of instant claim 10 (2:35-3:4).

Nogami et al. does not explicitly teach the addition of an ureidoalkyltrialkoxysilane [formula (3) of instant claim 10]. However, Crompton OSi Specialties teaches ureidopropyltrimethoxysilane. Nogami et al. and Crompton OSi Specialties are combinable because they are from the same field of endeavor, namely, alkoxysilane adhesion promoters. At the time of the invention, a person having ordinary skill in the art would have found it obvious to employ ureidopropyltrimethoxysilane as taught by Crompton OSi Specialties into the film-forming composition as taught by Nogami et al. and would have been motivated to do so since Crompton OSi Specialties teaches that ureidopropyltrimethoxysilane offers a number of important benefits including longer pot life than aminosilanes in reactive polymer systems (page 1). This would lead one having ordinary skill in the art to replace the aminopropyltrimethoxysilane as taught in Example 3 of Nogami et al. with ureidopropyltrimethoxysilane.

Claims 13-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nogami et al. (US Pat. 5,800,926), in view of Crompton OSi Specialties (Silquest A-1524 Silane product

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description found at [http://www.biryong.co.kr/datacenter/chemistry/Silquest\(R\)A1524Silane.pdf](http://www.biryong.co.kr/datacenter/chemistry/Silquest(R)A1524Silane.pdf), published 2002).

Nogami et al. teaches a coating film having the physical properties of instant claim 13 which is formed from a reaction mixture comprising a tetraalkoxysilane (2:40), a perfluorinated alkoxysilane (2:44), a solvent (2:49), oxalic acid (2:51), and one or more trialkoxysilane modifiers (4:52-5:7), which serve to promote adhesion and reduce the curing temperature of the composition. As a specific example, Nogami et al. teaches a film-forming composition comprising (1) tetraethoxysilane [formula (1) of instant claim 13], (2) tridecafluorooctyltrimethyloxysilane [formula (2) of instant claim 13], (3) aminopropyltrimethoxysilane, (4) glycidoxypropyltrimethoxysilane (instant claim 14), oxalic acid and ethanol (example 3; 7:22-36). Nogami et al. further teaches the addition of a sol of the types found in instant claim 15. Nogami et al. further explicitly teaches all of the process limitation steps and physical property limitations of instant claim 13 (2:35-3:4).

Nogami et al. does not explicitly teach the addition of an ureidoalkyltrialkoxysilane [formula (3) of instant claim 13]. However, Crompton OSi Specialties teaches ureidopropyltrimethoxysilane. Nogami et al. and Crompton OSi Specialties are combinable because they are from the same field of endeavor, namely, alkoxysilane adhesion promoters. At the time of the invention, a person having ordinary skill in the art would have found it obvious to employ ureidopropyltrimethoxysilane as taught by Crompton OSi Specialties into the film-forming composition as taught by Nogami et al. and would have been motivated to do so since Crompton OSi Specialties teaches that ureidopropyltrimethoxysilane offers a number of important benefits including longer pot life than aminosilanes in reactive polymer systems (page

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1). This would lead one having ordinary skill in the art to replace the aminopropyltrimethoxysilane as taught in Example 3 of Nogami et al. with ureidopropyltrimethoxysilane.

Claims 1-3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nogami et al. (US Pat. 5,800,926), in view of Hayashi et al. (US Pat. 6,800,330)

Nogami et al. teaches a coating film having the physical properties of instant claim 1 which is formed from a reaction mixture comprising a tetraalkoxysilane (2:40), a perfluorinated alkoxysilane (2:44), a solvent (2:49), oxalic acid (2:51), and one or more trialkoxysilane modifiers (4:52-5:7), which serve to promote adhesion and reduce the curing temperature of the composition. As a specific example, Nogami et al. teaches a film-forming composition comprising (1) tetraethoxysilane [formula (1) of instant claim 1], (2) tridecafluorooctyltrimethyloxysilane [formula (2) of instant claim 1], (3) aminopropyltrimethoxysilane, (4) glycidoxypropyltrimethoxysilane (instant claim 2), oxalic acid and ethanol (example 3; 7:22-36). Nogami et al. further teaches the addition of a sol of the types found in instant claim 3. Nogami et al. further explicitly teaches all of the process limitation steps and physical property limitations of instant claim 1 (2:35-3:4).

Nogami et al. does not explicitly teach the addition of an ureidoalkyltrialkoxysilane [formula (3) of instant claim 1]. However, Hayashi et al. teaches that aminopropyltrimethoxysilane and ureidopropyltrimethoxysilane are functional equivalents as silane coupling agents/adhesion promoters (14:66-15-25). It is *prima facie* obvious to substitute

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equivalents, motivated by the reasonable expectation that the respective species will behave in a comparable manner or give comparable results in comparable circumstances. *In re Ruff* 118 USPQ 340. See MPEP 2144.06. The express suggestion to substitute one equivalent for another need not be present to render the substitution obvious. *In re Font*, 213 USPQ 532.

Claims 4-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nogami et al. (US Pat. 5,800,926), in view of Hayashi et al. (US Pat. 6,800,330)

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Nogami et al. does not explicitly teach the addition of an ureidoalkyltrialkoxysilane [formula (3) of instant claim 10]. However, Hayashi et al. teaches that aminopropyltrimethoxysilane and ureidopropyltrimethoxysilane are functional equivalents as

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Nogami et al. teaches a coating film having the physical properties of instant claim 13 which is formed from a reaction mixture comprising a tetraalkoxysilane (2:40), a perfluorinated alkoxysilane (2:44), a solvent (2:49), oxalic acid (2:51), and one or more trialkoxysilane modifiers (4:52-5:7), which serve to promote adhesion and reduce the curing temperature of the composition. As a specific example, Nogami et al. teaches a film-forming composition comprising (1) tetraethoxysilane [formula (1) of instant claim 13], (2) tridecafluorooctyltrimethyloxysilane [formula (2) of instant claim 13], (3) aminopropyltrimethoxysilane, (4) glycidoxypropyltrimethoxysilane (instant claim 14), oxalic acid and ethanol (example 3; 7:22-36). Nogami et al. further teaches the addition of a sol of the types found in instant claim 15. Nogami et al. further explicitly teaches all of the process limitation steps and physical property limitations of instant claim 13 (2:35-3:4).

Nogami et al. does not explicitly teach the addition of an ureidoalkyltrialkoxysilane [formula (3) of instant claim 13]. However, Hayashi et al. teaches that

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aminopropyltrimethoxysilane and ureidopropyltrimethoxysilane are functional equivalents as silane coupling agents/adhesion promoters (14:66-15-25). It is *prima facie* obvious to substitute equivalents, motivated by the reasonable expectation that the respective species will behave in a comparable manner or give comparable results in comparable circumstances. *In re Ruff* 118 USPQ 340. See MPEP 2144.06. The express suggestion to substitute one equivalent for another need not be present to render the substitution obvious. *In re Font*, 213 USPQ 532.

Relevant Art Cited

The prior art made of record and not relied upon but is considered pertinent to applicants disclosure can be found on the attached PTO-892 form.

Correspondence

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Robert Loewe whose telephone number is (571) 270-3298. The examiner can normally be reached on Monday through Friday from 5:30 AM to 3:00 PM EST.

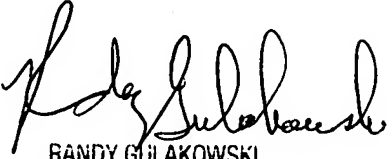
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Randy Gulakowski can be reached on (571) 272-1302. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR

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system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

RSL
3-Jan-07



RANDY GULAKOWSKI
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1700